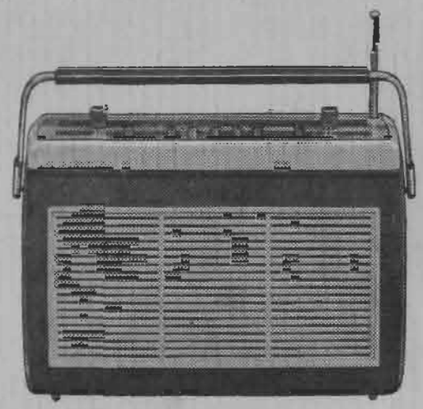
RYLAND HUNTLEY
Radiolounge
11, OLD BOND STREET,
BATH. — Telephone 4333

beolit 600

SERVICE MANUAL



8-66
PRINTED IN DENMARK
I-3 EKSPORT-TRYKKERIET • STRUER

A/S BANG & OLUFSEN PRODUKTIONSSELSKAB
STRUER-DENMARK Telephone (978) 5'11 22* - Telex 4289 - Cable Address Bangoluf

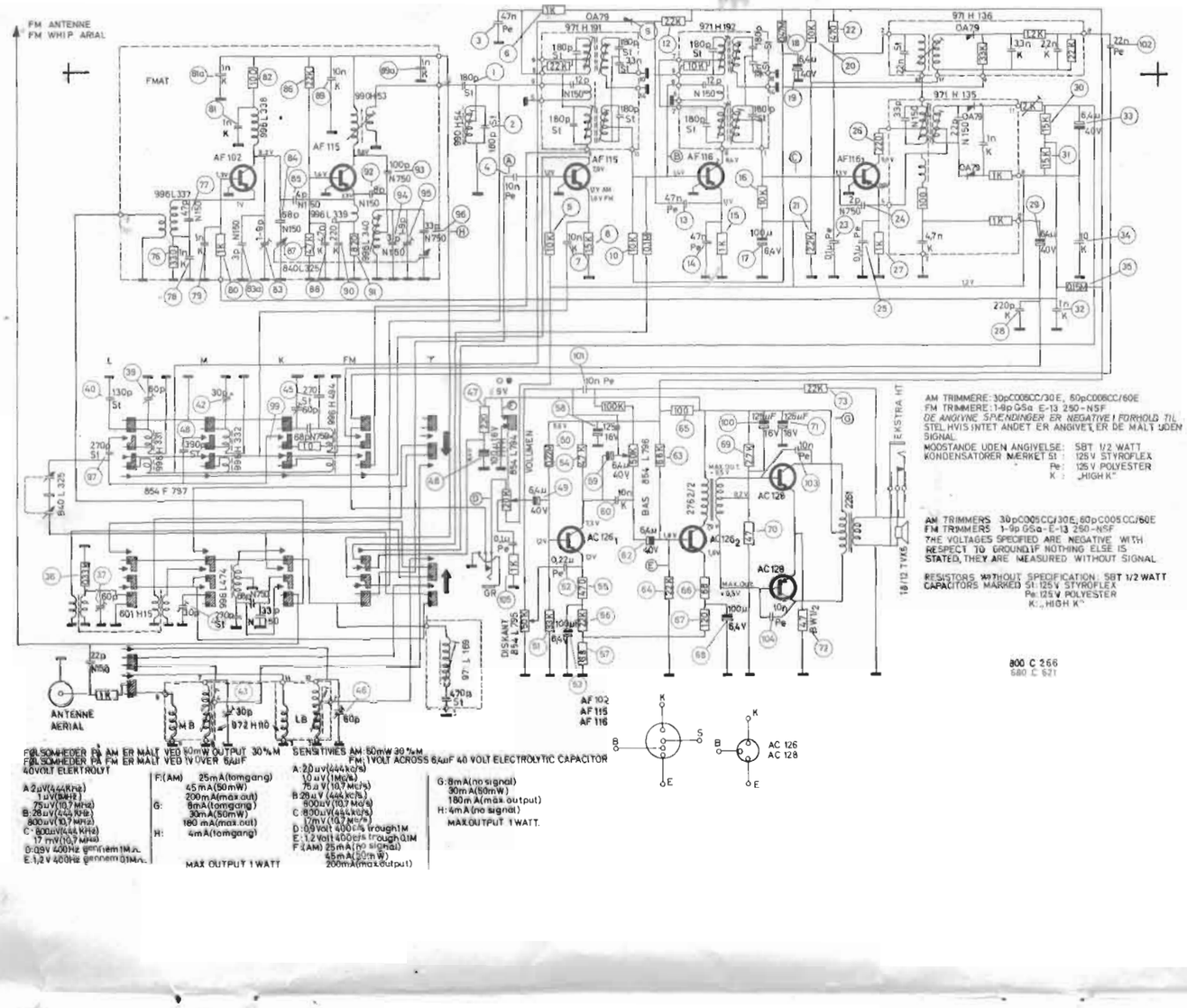
TECHNICAL DATA

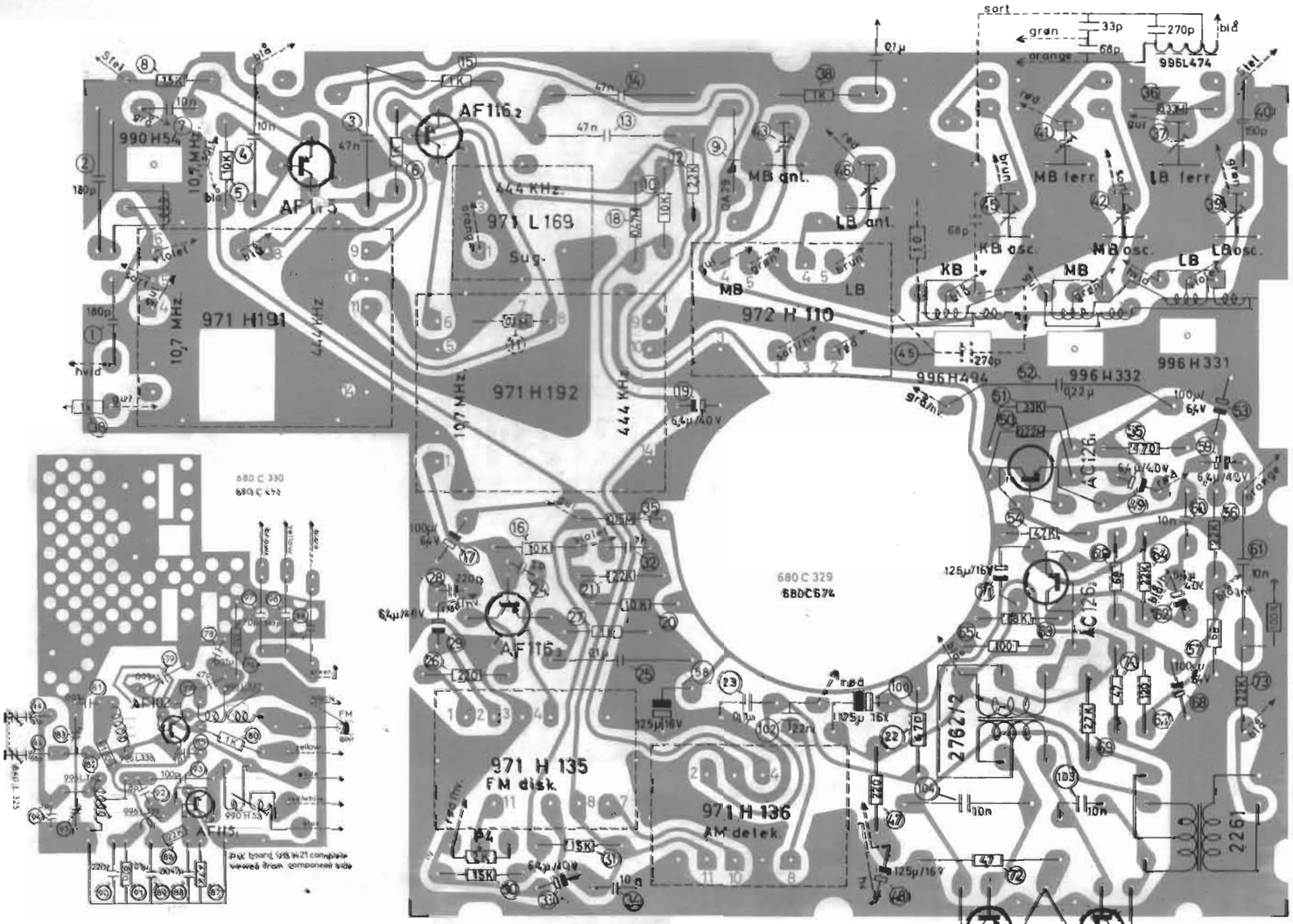
Aerial, AM: Ferrite aerial for LW, MW, and FW. Provision for connection of auto aerial; ferrite aerial may be cut out on LW and MW by means of pushbutton.
Aerial, FM: One telescopic whip; provision for connection of auto aerial.
Auto mounting bracket: Type 920 H 9.
Tape recorder connection: See page 13.
Wave bands,

Model TR 53:	LW	940 - 2040 m,	320 - 147 kc/s
	MW	187 - 545 m,	1600 - 550 kc/s
	SW	48 - 50 m,	6.2 - 5.95 Mc/s
	FM		87 - 100 Mc/s
Model TR 52:	LW	940 - 2040 m,	320 - 147 kc/s
	MW	200 - 545 m,	1500 - 550 kc/s
	FW	75 - 206 m,	4 - 1.45 Mc/s
	FM		87 - 100 Mc/s

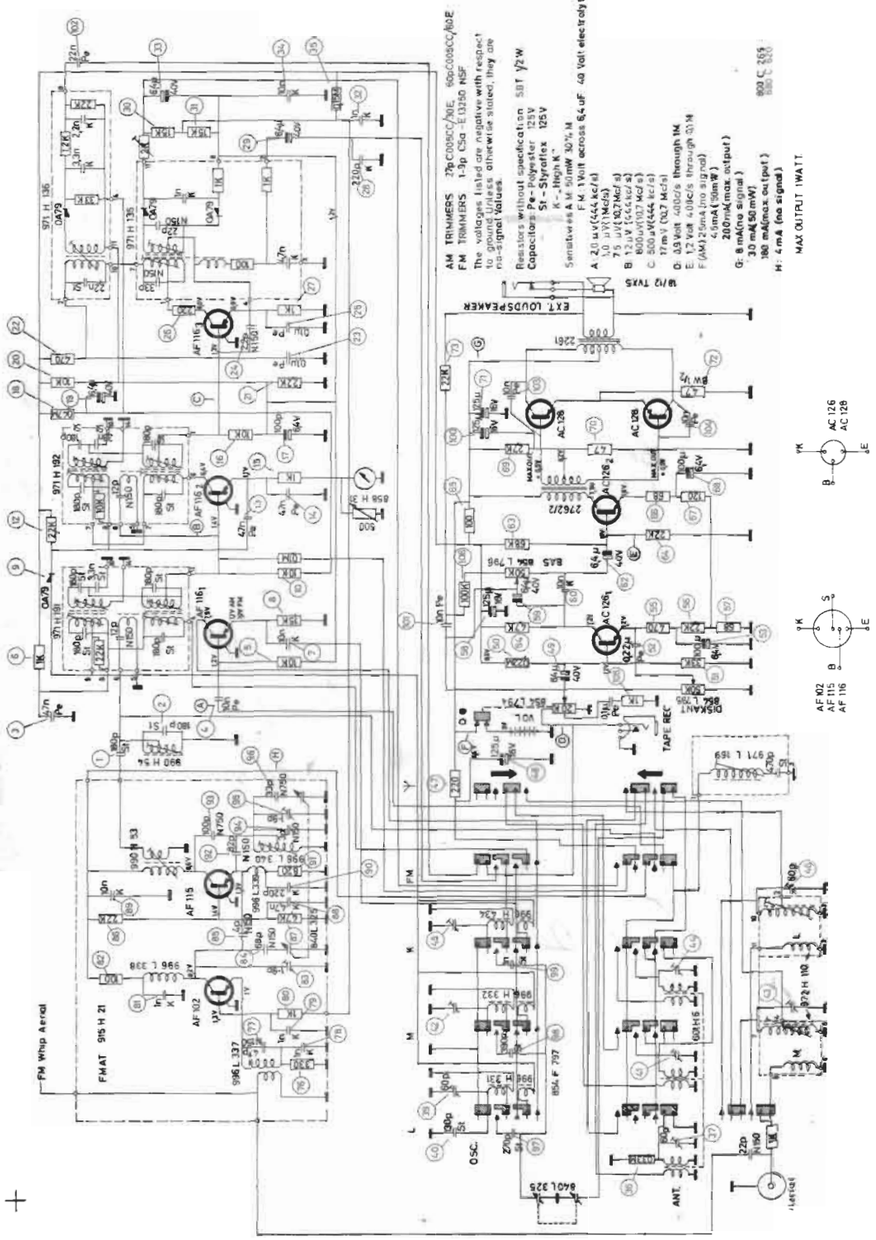
External-speaker impedance: 3.5 Ω. Jack plug cuts out built-in speaker when inserted.
Dry cells: Six 1.5-volt standard dry cells (American standard: Type D).
Battery drain: AM, approx. 25 mA at low volume, approx. 45 mA at 50 mW output.
Gramophone: See page 13.
Dimensions: 12 3/4 in. wide, 9 3/4 in. high, 4 1/4 in. deep (325 × 248 × 108 m.m).
Radicator, Model TR 52: AM-FM tuning, battery checking.
Power output: 1 watt max.
Weight: 11.4 lbs (3.69 kg).

CIRCUIT DIAGRAM OF BEOLIT 600 (TR 53)

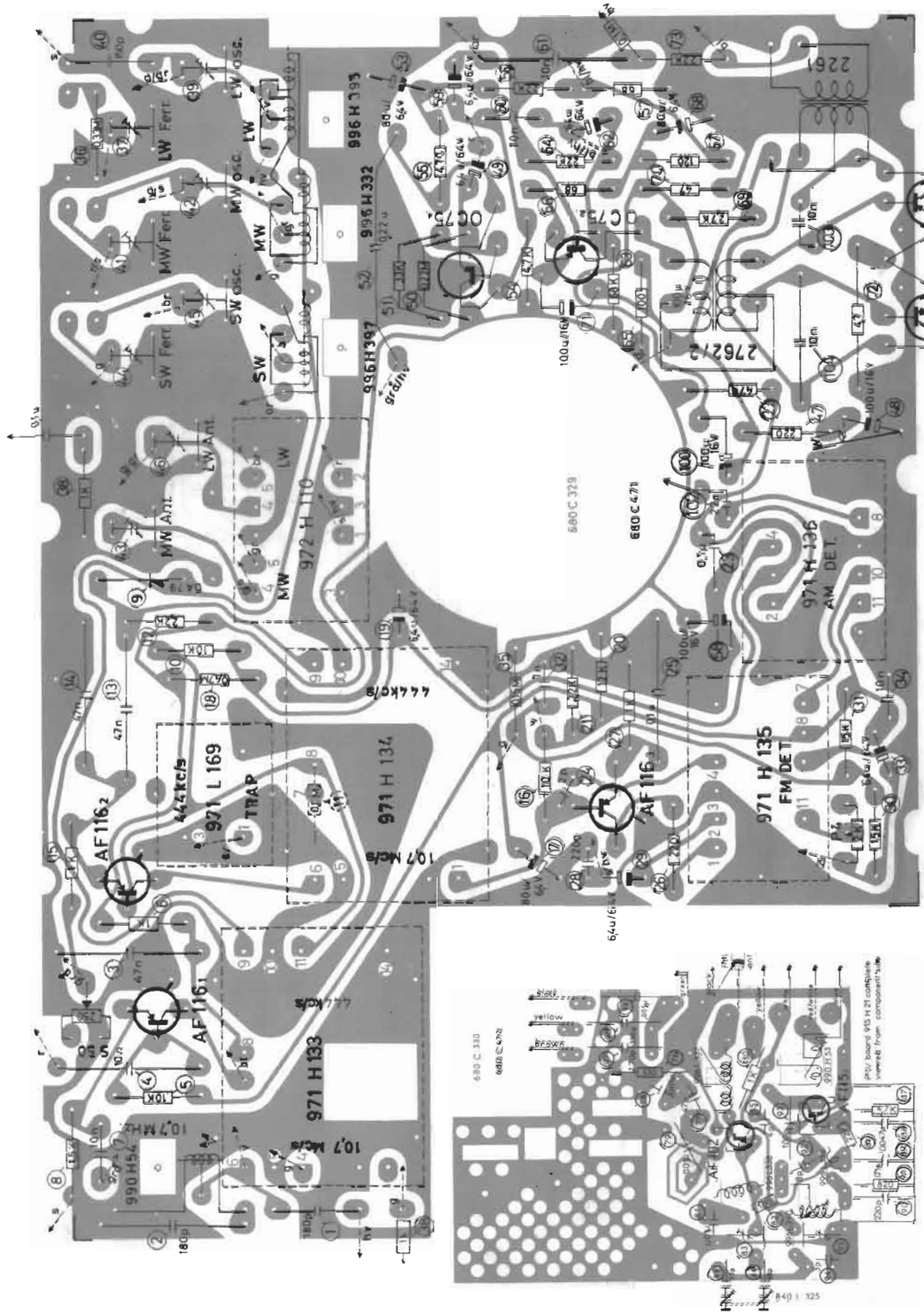

FM ANTENNE
FM WHIP ARIAL
ANTENNE
AERIAL
AF 102
AF 115
AF 116
AC 126
AC 128
AM TRIMMERE: 30pC008CC/30E, 60pC008CC/60E
FM TRIMMERE: 1-9p GSa E-13 250-NSF
DE ANGIVNE SPÆNDINGER ER NEGATIVE I FORHOLD TIL STEL HVIS INTET ANDET ER ANGIVET, ER DE MÅLT UDEN SIGNAL
MODSTANDE UDEN ANGIVELSE: 5BT 1/2 WATT
KONDENSATORER MÆRKET S: 125 V STYROFLEX
P: 125 V POLYESTER
K: „HIGH K"
AM TRIMMERS 30pC005CC/30E, 60pC005CC/60E
FM TRIMMERS 1-9p GSa-E-13 250-NSF
THE VOLTAGES SPECIFIED ARE NEGATIVE WITH RESPECT TO GROUND IF NOTHING ELSE IS STATED, THEY ARE MEASURED WITHOUT SIGNAL
RESISTORS WITHOUT SPECIFICATION: 5BT 1/2 WATT
CAPACITORS MARKED S: 125 V STYROFLEX
P: 125 V POLYESTER
K: „HIGH K"
800 C 266
680 C 621
FØLSOMHEDER PÅ AM ER MÅLT VED 50mW OUTPUT 30 %M
FØLSOMHEDER PÅ FM ER MÅLT VED 1V OVER 6µF 40VOLT ELEKTROLYT
SENSITIVIES AM: 50mW 30 %M
FM: 1 VOLT ACROSS 6µF 40 VOLT ELECTROLYTIC CAPACITOR
MAX OUTPUT 1 WATT
MAX OUTPUT 1 WATT.



CIRCUIT DIAGRAM OF BEOLIT 600 (TR 52)

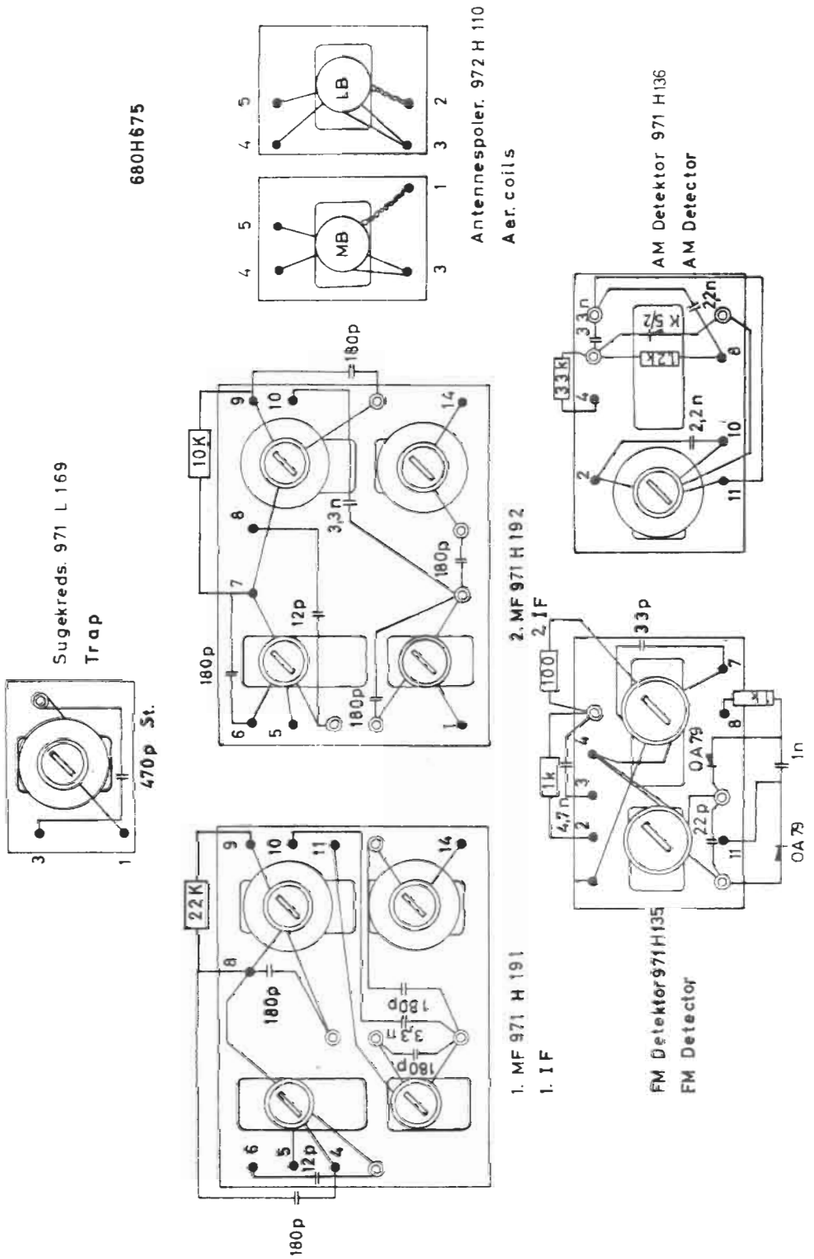


PW BOARD 915 H 53



PW Plade 915H53, set fra komponentsiden
PW Board 915H53, viewed from component side

WIRING DIAGRAM FOR IF TRANSFORMERS

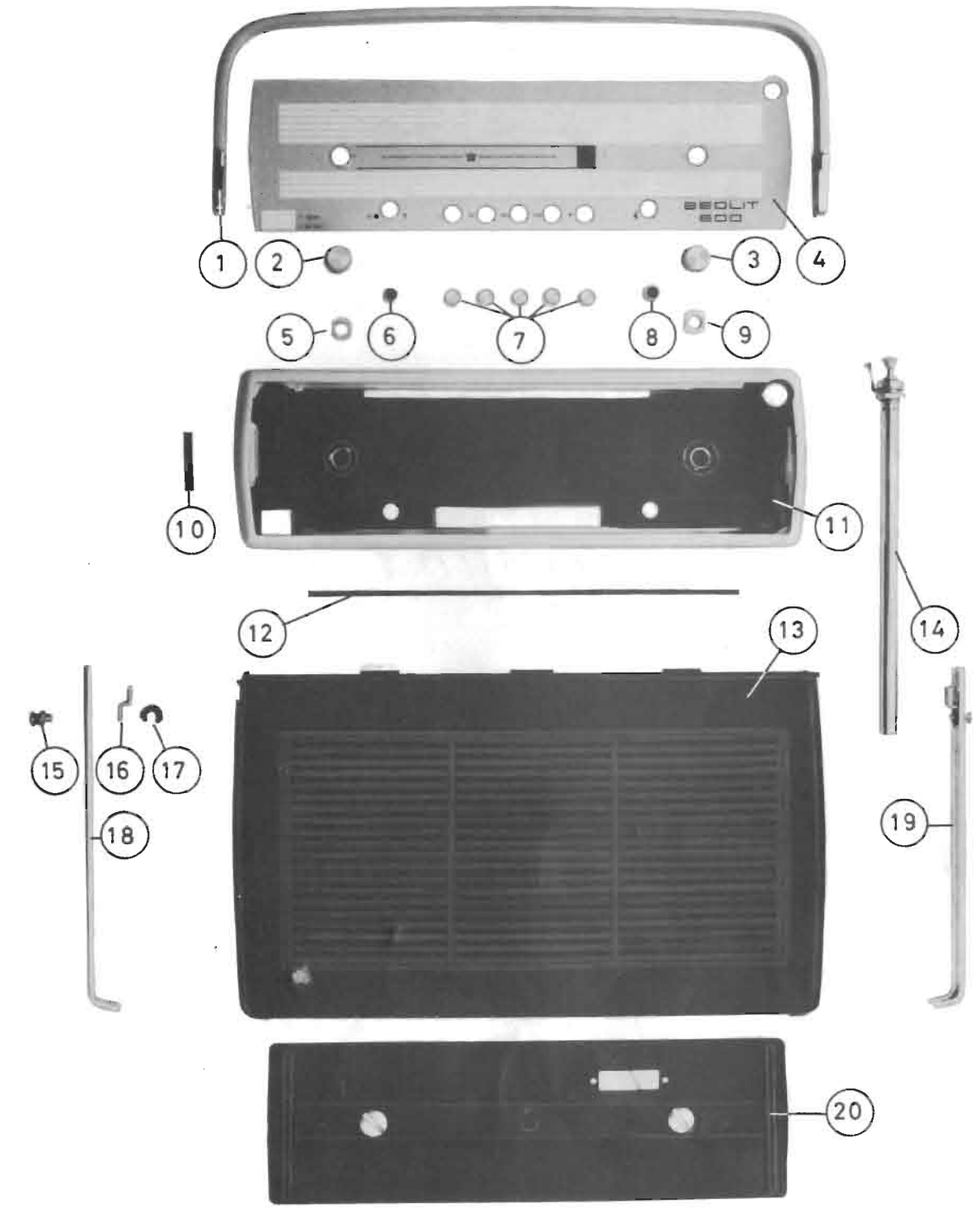


NOTES:

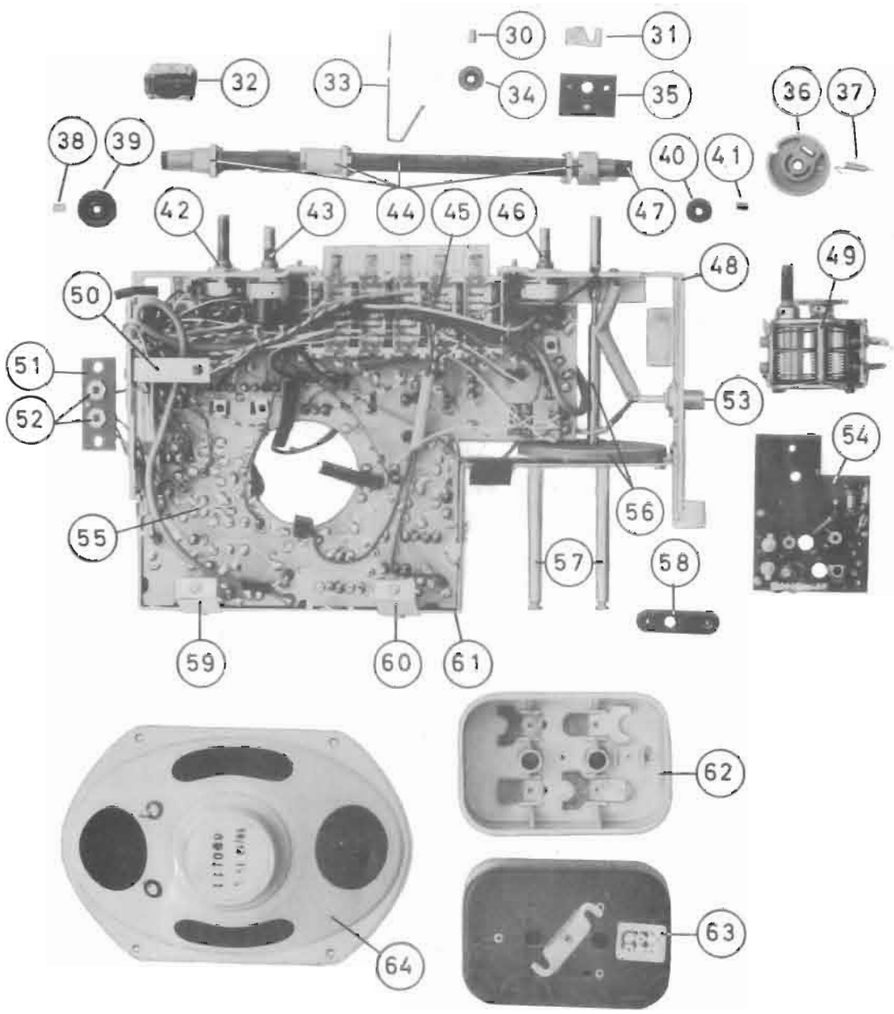
PARTS LIST,

BEOLIT 600 TR 52 and BEOLIT 600 TR 53

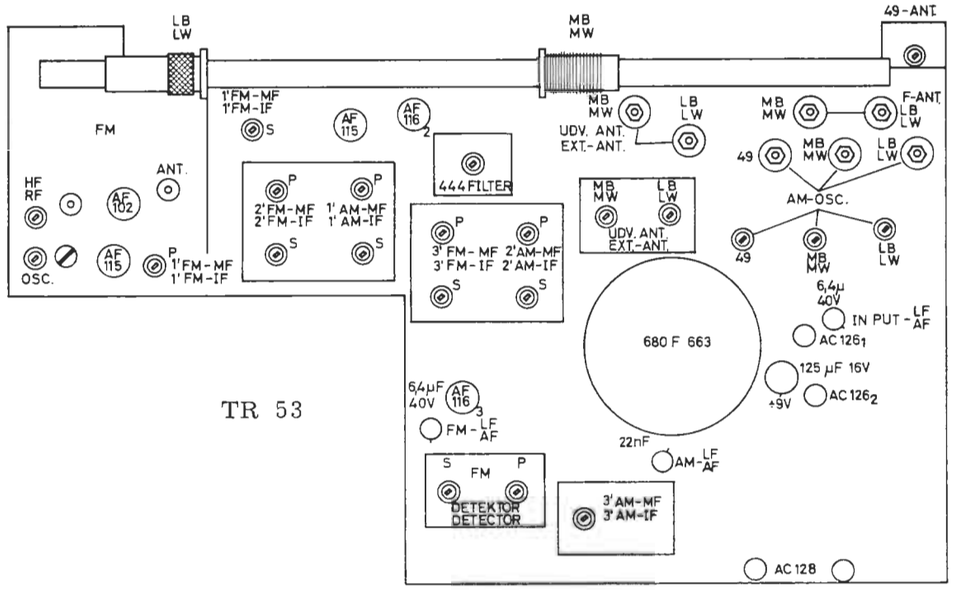
1	Carrying handle, TR 53.	760 H 482
*	- - TR 52.	760 H 397
*2	Knob, volume	928 L 134
*3	Knob, tuning	322 L 159
4	Dial, TR 53.....	566 F 163
*	- TR 52.....	566 F 160
*5	Bushing..... BASS	415 L 76
*6	Knob, on/off switch and ~~volume~~ control...	760 L 495
*7	Buttons for pushbutton switch	322 L 162
*8	Knob, treble	760 L 496
9	Bushing.....	415 L 76
10	Moulding.....	280 L 429
*11	Top.....	840 F 475
12	Moulding.....	280 L 428
*13	Cabinet half section, TR 53	
	dark grey, speaker grille light grey.....	690 H 98
	light grey, - - - -	690 H 99
	blue, - - - -	690 H 100
	black, - - - -	690 H 101
	Cabinet half section, TR 52	
	blue, one-colour	690 H 61
	yellow, -	690 H 62
	green, -	690 H 63
	red, - -	690 H 64
	light grey, - -	690 H 65
	dark grey, - -	690 H 66
	black, - -	690 H 56
*14	Telescopic whip	2033-3
*15	Pin.....	469 L 16
*16	Bracket.....	248 L 521
*17	Seeger circlip.....	SL 5
18	Ornamental strip, TR 53(Gram.-Speaker)..	280 H 336
*	- - TR 52(Tape rec.-Speaker)	280 H 325
*19	- - TR 52 and TR 53(Aer.) .	280 H 326
*20	Bottom complete,	
	blue	690 H 67
	yellow	690 H 68
	green.....	690 H 69
	red.....	690 H 70
	light grey.	690 H 71
	dark grey....	690 H 72
	black	690 H 60



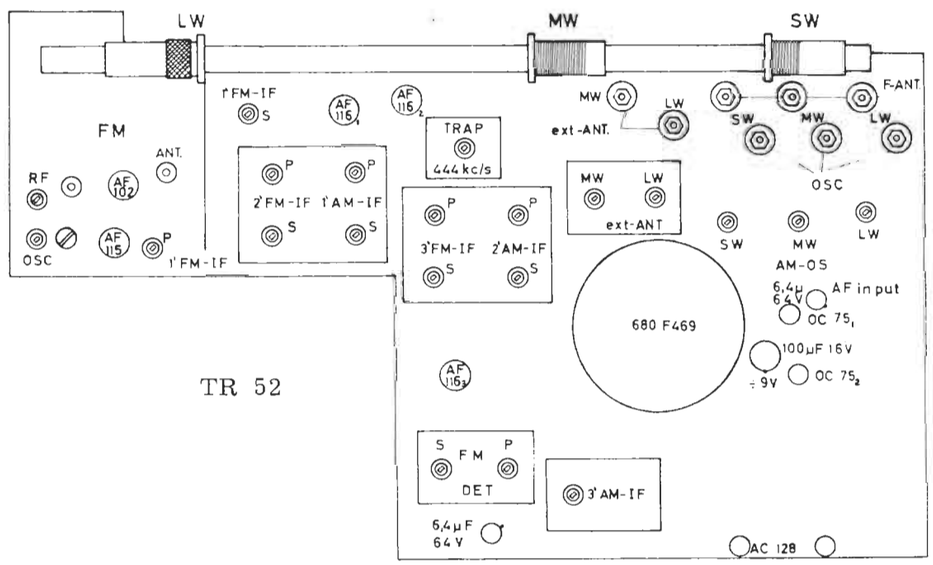
30	Bushing	410 L 165
31	Lock piece	586 L 51
32	Radicator	858 H 31
33	Dial pointer	760 L 455
34	Cord pulley	10163-06
35	Bearing	530 L 444
36	Dial drive wheel	312 H 39
37	Spring	330 L 194
38	Bushing	410 L 165
39	Cord pulley	10343-05
40	Cord pulley	10163-06
41	Bushing	410 L 165
*42	Potentiometer, volume	854 L 794
*43	Potentiometer, bass	854 L 796
44	Ferrite rod, complete with coils, TR 53	601 H 15
*	- - - - - TR 52	601 H 6
*45	Pushbutton switch assembly	760 L 460
*46	Potentiometer, treble	854 L 795
*47	Ferrite rod	760 L 477
*	Holder for ferrite rod	530 L 433
48	Chassis bracket, TR 53	504 C 176
	- - TR 52	504 C 213
*49	Tuning capacitor	840 L 325
50	Bracket	245 L 73
51	Mounting plate for jacks	592 L 52
52	Jacks	81/123
*53	Aerial jack	840 L 331
*54	PW unit, FM tuner	915 H 21
	Transistor, RF	AF 102
	- mixer	AF 115
55	PW unit, IF and AF, TR 53	915 H 157
	- - - - - TR 52	915 H 53
	Diodes	Four OA 79's
	Socket for electrolytic capacitor	506 H 101
	IF transformers, 1st IF	971 H 191
	2nd IF	971 H 192
	AM det.	971 H 136
	FM det.	971 H 135
	Potentiometer	2.2 KΩ P 4
	Potentiometer (TR 52)	500 Ω S 50



AM ALIGNMENT AND SENSITIVITIES



TR 53



TR 52

The 444 kc/s AM-IF should be aligned with the receiver tuned to the centre of the MW band and the tuning core of the series trap screwed all the way out. Apply the sweep generator signal at point A, through a 0.1 µF capacitor. Connect the oscillograph to the top of the potentiometer and adjust the five IF cores for maximum response and symmetrical curve form. Bandwidth should be 5 kc/s at 6 dB down. Tune the series trap for minimum response.

Points of Alignment

With the tuning capacitor at full capacitance, the pointer should cover the two points at the right-hand side of the dial.
Sensitivities on ferrite aerial, measured in a screened room with a frame aerial:

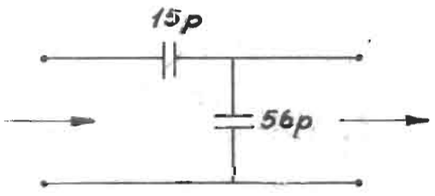
Model TR 53:

LW:	160 kc/s	400 µV/m	at	50 mW;		272 kc/s	315 µV/m	at	100 mW
MW:	584 -	71 -	-	50 -		1484 -	63 -	-	50 -

Model TR 52:

LW:	160 kc/s	315 µV/m	at	50 mW;		272 kc/s	160 µV/m	at	50 mW
MW:	656 -	100 -	-	50 -		1430 -	63 -	-	50 -
FW:	1596 -	100 -	-	50 -		3750 -	80 -	-	50 -

Alignment for external aerial should be performed through a dummy aerial.



Model TR 53:

LW:	160 kc/s	45 µV	at	50 mW;		272 kc/s	125 µV	at	500 mW
MW:	584 -	35.5 -	-	50 -		1484 -	63 -	-	100 -
SW:	6 Mc/s	4.5 -	-	50 -					

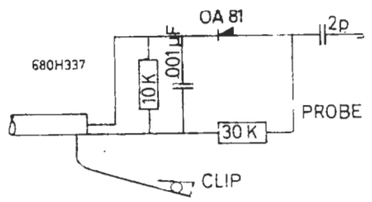
Model TR 52:

LW:	160 kc/s	50 µV	at	50 mW;		272 kc/s	25 µV	at	50 mW
MW:	656 -	45 -	-	50 -		1430 -	50 -	-	50 -

The radicator should be adjusted with new dry cells inserted and with the MW and FW pushbuttons depressed. Adjust the 250Ω potentiometer for maximum radicator reading.

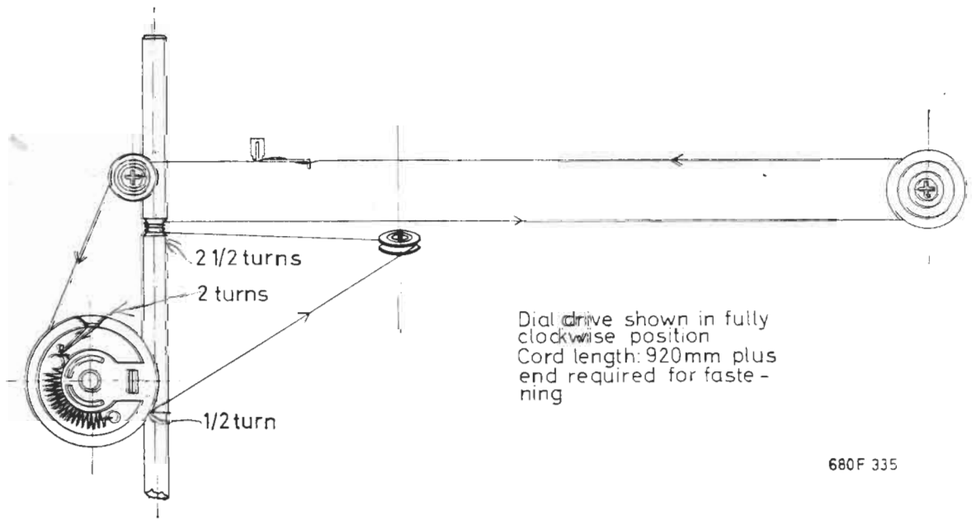
FM Alignment

Apply a 94 Mc/s sweep signal through the aerial jack and connect the diode probe from the oscillograph at point C (the base of AF 116 3). Adjust the seven IF cores for maximum response and symmetrical curve form. Bandwidth should be 250 kc/s ± 30 kc/s at 6 dB down. The discriminator curve should be taken off across the 220 pF capacitor numbered 28 in the circuit diagram, without the diode probe, and the last core (the secondary) should be adjusted for symmetrical curve form. The semi-variable 2 KΩ potentiometer should be adjusted for max. noise suppression. The FM tuner osc. and aerial coils should be adjusted at 90 Mc/s whilst the osc. and aerial trimmers should be adjusted at 99 Mc/s.



Sensitivity: 94 Mc/s: 6µV for 1 volt across the 5µF/70 V capacitor (No. 33). 26 dB signal-to-noise ratio at 4µV EMF.

DIAL DRIVE


2 1/2 turns
2 turns
1/2 turn
Dial drive shown in fully clockwise position
Cord length: 920mm plus end required for fastening
680F 335

Disassembling the Receiver

1. Remove the carrying handle by applying light pressure in the direction of the arrow A.
2. Take off the bottom. Remove screws marked B at both sides.
3. The sides may now be removed by first shifting them in the direction of the arrow C and then pulling them lightly in the direction of the arrow D.
4. Remove the two cabinet sections by tilting them in the direction of the arrows E.
5. The top is held to the chassis by four screw. These are located at the ends of the ferrite aerial and at the two tone controls.